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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,092	07/12/2002	Kikuo Kishimoto	P67554US0	4388
136	7590	03/09/2004	EXAMINER	
JACOBSON HOLMAN PLLC 400 SEVENTH STREET N.W. SUITE 600 WASHINGTON, DC 20004			SAYALA, CHHAYA D	
			ART UNIT	PAPER NUMBER
			1761	

DATE MAILED: 03/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/030,092

Applicant(s)

KISHIMOTO ET AL.

Examiner

C. SAYALA

Art Unit

1761

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |                                                                                                    |                                                                             |
|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____.                                                |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date. ____.                                                                       | 6) <input type="checkbox"/> Other: ____.                                    |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, "high base exchange capacity" is indefinite and not defined in the specification, either. Further, "high" is of indeterminate scope. It is unclear what type of material this limitation intends to describe. Note that claim 5 defines "porous material", and "ATS-carrying material". But the limitation "high base exchange capacity" is not.

Claim 5 is indefinite in that "The ganular" lacks antecedent basis.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 2 is rejected under 35 U.S.C 102(b) as being anticipated by Sutton et al.  
(US Patent 4994100) or CA 1269859.

Sutton et al. teach a granular ammonium thiosulfate together with urea, a nitrogen-containing fertilizer. The amount of ammonium thiosulfate is 0.4 to 1.0% by weight (see col. 4, line 42 to col. 5, line 5 and claim 1).

The CA patent teaches a granulated fertilizer which is a mixture of ammonium thiosulfate and urea, ammonium phosphate, ammonium nitrate, etc. The ammonium thiosulfate is at least 5% by weight. See the claims.

Note that the claim is written in a product-by-process format and as such, it is the novelty of the instantly claimed product that need be established and not that of the recited process steps. In re Brown, 173 USPQ 685 (CCPA 1972); In re Wertheim, 191 USPQ (CCPA 1976).

3. Claims 2 and 3 are rejected under 35 U.S.C 102 (b) as being anticipated by Solansky et al. (US Patent 5261939).

Solansky et al. teach a composition of ammonium thiosulfate and guanyl thiourea with the ammonium thiosulfate in an amount of 10% to 60% by weight. (See claim 5). The composition is granulated (see col. 2, lines 59-60). Only a part of the composition is used as fertilizer. The claims are written in a product-by-process format and as such, it is the novelty of the instantly claimed product that need be established and not that of the recited process steps. In re Brown, 173 USPQ 685 (CCPA 1972); In re Wertheim, 191 USPQ (CCPA 1976).

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4. Claims 2 and 3 are rejected under 35 U.S.C 102(b) as being anticipated by Grabarse et al. (US Patent 5741345).

Grabarse et al. teach a composition with ammonium thiosulfate and dicyanodiamide together with solid or liquid fertilizers. See col.2, lines 1-30 and claims 1-4.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1 and 5 are rejected under 35 U.S.C 103 (a) as being unpatentable over the prior art discussion at page 1, "Background of Arts" in view of JP 08325089 and JP 05105570.

At p.1, the patent states that the use of ammonium thiosulfate in prior art has been limited to a liquid fertilizer, at pH 6 or more. Both the JP patents teach the adsorption of a liquid fertilizer in materials that enable it to be a powder or granulate. JP

'089 teaches adsorbing a liquid fertilizer into a lightweight cellular concrete which is porous. The fertilizer thus adsorbed enables a longer usage in soil as it is preserved in soil over a longer time. The patent teaches that all liquid fertilizers may be used in this way (see paragraph [0016]). The pH is then adjusted according to the plants it is used for (see paragraph [0033]). JP '570 teaches a powdery fertilizer composition wherein a liquid fertilizer is mixed with polymers, inorganic additives such as bentonite, diatomaceous earth (see paragraph [0004]) and then pulverized to a powder.

Even though both patents do not specifically teach ammonium thiosulfate, it would have been obvious based on the prior art teaching that the ammonium thiosulfate is a liquid fertilizer, to use it in the methods shown by those two patents to produce fertilizer as a solid for its advantages as discussed above and described in the patents themselves.

6. Claim 4 is rejected under 35 U.S.C 103(a) as being unpatentable over the prior art discussion at page 1, "Background of Arts" in view of Sherrington et al. (US Patent 3348938).

At p.1, the patent states that the use of ammonium thiosulfate has been limited in prior art, to a liquid fertilizer, at pH 6 or more. The patent to Sherrington et al. teaches the process of producing a mixed fertilizer, such as ammonium phosphate, that is sprayed over urea. It would have been obvious to use ammonium thiosulfate instead of ammonium phosphate and spray it on the urea to obtain a granular, mixed fertilizer.

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Note that the patent itself teaches that the method can be applied to a wider range of fertilizers - see col. 2, lines 15-25 and col. 3, lines 1-4.


### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. SAYALA whose telephone number is 571-272-1405.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
C. SAYALA  
Primary Examiner  
Group 1700.